Author Index*

Volume 6

A

ADAMS, MARTIN R., Solid film deposition and non-sacrificial boundary lubrication, 60

ALBERTSON, C. E., The mechanism of anti-squawk additive behavior in automatic transmission fluids, 300

ALLEN, GORDON P., Wear and friction of mechanical carbons in liquid oxygen as influenced by transfer films, 201

ARMSTRONG, E. L., Development and evaluation of greases for high temperature–high speed applications (D), 110

AUSMAN, J. S., Theoretical investigation of externally pressurized thrust collar gas bearings (D), 344

B

BEERBOWER, A., Predicting elastomer-fluid compatibility for hydraulic systems, 80

BOES, D. J., Friction-wear characteristics of self-lubricating composites developed for vacuum service, 192

BONIS, L. J., Friction-wear characteristics of self-lubricating composites developed for vacuum service (D), 199

BORSOFF, V. N., A scoring factor for gears, 147

BOWEN, PAUL H., Gallium-rich films as boundary lubricants in air and in vacuum to 10^{-9} mm Hg (D), 10

BOWEN, P. H., Friction-wear characteristics of self-lubricating composities developed for vacuum service, 192

BOWERS, R. C., Wear studies on moldings of polytetrafluoroethylene resin. Considerations of crystallinity and graphite content (D), 284

BROMAN, V. E., Effect of lubricants on rear axle pinion bearing break-in (D), 160

BROWN, P. F., A first order solution for the stress concentration present at the end of roller contact (D), 334

BROWN, R. D., Evaluation of oscillating bearings for high-temperature and high-vacuum operation, 12

BUCKLEY, D. H., Gallium-rich films as boundary lubricants in air and in vacuum to 10^{-9} mm Hg, 1

BURTON, R. A., Evaluation of oscillating bearings for high-temperature and high-vacuum operation, 12

BURTON, R. A., Contact fatigue under oscillatory normal load, 255

BURTON, R. A., Lubricant evaluation for bearing systems operating in spatial environments (D), 77

C

CASTELLI, V., Theoretical and experimental investigation of gas lubricated, pivoted-pad journal bearings, 346

CLAUSS, F. J., Lubrication of ball bearings for space applications, 178

CLINTON, W. C., The effect of adsorbed films on the attractive and frictional forces developed in an electrostatic clutch, 209

CONNERS, THOMAS F., Radioisotopes applied to lubrication problems of inertial gyro bearings, 125

D

DERNER, WILLIAM J., A scoring factor for gears (D), 152

DIPRIMA, R. C., A note on the stability of flow in loaded journal bearings, 249

DORINSON, A., Crater wear and failure of high speed steel tools in dry and lubricated cutting, 270

DORINSON, A., Effect of lubricants on rear axle pinion bearing break-in (D), 160

DOYLE, W. P., The mechanism of anti-squawk additive behavior in automatic transmission fluids (D), 314

DRAKE, S. P., Lubrication of ball bearings for space applications, 178

DYER, L. D., Metallic cohesion in high vacuum (D), 27

E

ESTEN, H., Lubricant evaluation for bearing systems operating in spatial environments, 67

F

FEIN, R. S., Surface roughness effects on metallic contact and friction (D), 58

FENG, I-MING, Solid film deposition and non-sacrificial boundary lubrication, 60

FLOM, D. G., Correlation of gyro spin-axis ball bearing performance with the dynamic lubricating film (D), 122

FOLEY, R. T., Frictional characteristics of cobalt, nickel, and iron as influenced by their surface oxide films, 29

FORINASH, D. M., Relating humidity cabinet life of lubricants to their service life, 233

FOSTER, L. M., Gallium-rich films as boundary lubricants in air and in vacuum to 10^{-9} mm Hg (D), 10

FULLER, D. D., Theoretical and experimental investigation of gas lubricated, pivoted-pad journal bearings, 346

FURBY, NEAL W., Lubrication of ball bearings for space applications (D), 189

FUREY, M. J., Initial experiments with a ball bearing simulator (D), 139

FUREY, M. J., Some optimum conditions for the lubrication of gear teeth (D), 146

FUREY, M. J., Surface roughness effects on metallic contact and friction, 49

G

GISSER, H., Oxidation stability of the fluoroalcohol esters, 316

GISSER, HENRY, Lubrication of titanium surfaces modified by metallic diffusion, 40

GODET, M. R., A scoring factor for gears, 147

GODFREY, DOUGLAS, Lubrication of ball bearings for space applications (D), 189

GROSS, W. A., Theoretical investigation of externally pressurized thrust collar gas bearings (D), 344

GUNTER, E. J., JR., Theoretical and experimental investigation of gas lubricated, pivoted pad journal bearings, 346

GUSTAFSON, J. H., Development and evaluation of greases for high temperature–high speed applications (D), 110

H

HADY, WILLIAM F., Wear and friction of mechanical carbons in liquid oxygen as influenced by transfer films, 201

HAM, JOHN L., Metallic cohesion in high vacuum, 20

HANAU, HEINZ, Correlation of gyro spin-axis ball bearing performance with the dynamic lubricating film (D), 122

HAVILAND, M. L., The mechanism of anti-squawk additive behavior in automatic transmission fluids (D), 312

* (D) signifies Discussion.

Author Index*

Volume 6

A

ADAMS, MARTIN R., Solid film deposition and non-sacrificial boundary lubrication, 60

ALBERTSON, C. E., The mechanism of anti-squawk additive behavior in automatic transmission fluids, 300

ALLEN, GORDON P., Wear and friction of mechanical carbons in liquid oxygen as influenced by transfer films, 201

ARMSTRONG, E. L., Development and evaluation of greases for high temperature–high speed applications (D), 110

AUSMAN, J. S., Theoretical investigation of externally pressurized thrust collar gas bearings (D), 344

B

BEERBOWER, A., Predicting elastomer-fluid compatibility for hydraulic systems, 80

BOES, D. J., Friction-wear characteristics of self-lubricating composites developed for vacuum service, 192

BONIS, L. J., Friction-wear characteristics of self-lubricating composites developed for vacuum service (D), 199

BORSOFF, V. N., A scoring factor for gears, 147

BOWEN, PAUL H., Gallium-rich films as boundary lubricants in air and in vacuum to 10^{-9} mm Hg (D), 10

BOWEN, P. H., Friction-wear characteristics of self-lubricating composities developed for vacuum service, 192

BOWERS, R. C., Wear studies on moldings of polytetrafluoroethylene resin. Considerations of crystallinity and graphite content (D), 284

BROMAN, V. E., Effect of lubricants on rear axle pinion bearing break-in (D), 160

BROWN, P. F., A first order solution for the stress concentration present at the end of roller contact (D), 334

BROWN, R. D., Evaluation of oscillating bearings for high-temperature and high-vacuum operation, 12

BUCKLEY, D. H., Gallium-rich films as boundary lubricants in air and in vacuum to 10^{-9} mm Hg, 1

BURTON, R. A., Evaluation of oscillating bearings for high-temperature and high-vacuum operation, 12

BURTON, R. A., Contact fatigue under oscillatory normal load, 255

BURTON, R. A., Lubricant evaluation for bearing systems operating in spatial environments (D), 77

C

CASTELLI, V., Theoretical and experimental investigation of gas lubricated, pivoted-pad journal bearings, 346

CLAUSS, F. J., Lubrication of ball bearings for space applications, 178

CLINTON, W. C., The effect of adsorbed films on the attractive and frictional forces developed in an electrostatic clutch, 209

CONNERS, THOMAS F., Radioisotopes applied to lubrication problems of inertial gyro bearings, 125

D

DERNER, WILLIAM J., A scoring factor for gears (D), 152

DIPRIMA, R. C., A note on the stability of flow in loaded journal bearings, 249

DORINSON, A., Crater wear and failure of high speed steel tools in dry and lubricated cutting, 270

DORINSON, A., Effect of lubricants on rear axle pinion bearing break-in (D), 160

DOYLE, W. P., The mechanism of anti-squawk additive behavior in automatic transmission fluids (D), 314

DRAKE, S. P., Lubrication of ball bearings for space applications, 178

DYER, L. D., Metallic cohesion in high vacuum (D), 27

E

ESTEN, H., Lubricant evaluation for bearing systems operating in spatial environments, 67

F

FEIN, R. S., Surface roughness effects on metallic contact and friction (D), 58

FENG, I-MING, Solid film deposition and non-sacrificial boundary lubrication, 60

FLOM, D. G., Correlation of gyro spin-axis ball bearing performance with the dynamic lubricating film (D), 122

FOLEY, R. T., Frictional characteristics of cobalt, nickel, and iron as influenced by their surface oxide films, 29

FORINASH, D. M., Relating humidity cabinet life of lubricants to their service life, 233

FOSTER, L. M., Gallium-rich films as boundary lubricants in air and in vacuum to 10^{-9} mm Hg (D), 10

FULLER, D. D., Theoretical and experimental investigation of gas lubricated, pivoted-pad journal bearings, 346

FURBY, NEAL W., Lubrication of ball bearings for space applications (D), 189

FUREY, M. J., Initial experiments with a ball bearing simulator (D), 139

FUREY, M. J., Some optimum conditions for the lubrication of gear teeth (D), 146

FUREY, M. J., Surface roughness effects on metallic contact and friction, 49

G

GISSER, H., Oxidation stability of the fluoroalcohol esters, 316

GISSER, HENRY, Lubrication of titanium surfaces modified by metallic diffusion, 40

GODET, M. R., A scoring factor for gears, 147

GODFREY, DOUGLAS, Lubrication of ball bearings for space applications (D), 189

GROSS, W. A., Theoretical investigation of externally pressurized thrust collar gas bearings (D), 344

GUNTER, E. J., JR., Theoretical and experimental investigation of gas lubricated, pivoted pad journal bearings, 346

GUSTAFSON, J. H., Development and evaluation of greases for high temperature–high speed applications (D), 110

H

HADY, WILLIAM F., Wear and friction of mechanical carbons in liquid oxygen as influenced by transfer films, 201

HAM, JOHN L., Metallic cohesion in high vacuum, 20

HANAU, HEINZ, Correlation of gyro spin-axis ball bearing performance with the dynamic lubricating film (D), 122

HAVILAND, M. L., The mechanism of anti-squawk additive behavior in automatic transmission fluids (D), 312

* (D) signifies Discussion.

HOROWITZ, H. H., Calculated performance of greases in journal bearings, 239
HORSCH, JOHN D., Correlation of gyro spin-axis ball bearing performance with the dynamic lubricating film, 112
HOTTEN, B. W., Influence of glycol molecular configuration on friction (D), 100
HOWE, THOMAS B., Initial experiments with a ball bearing simulator, 133

I

IMAI, M., Lubrication by low-melting-point metals at elevated temperatures, 286

J

JACKSON, EARL G., Lubrication of ball bearings for space applications (D), 189
JAFFE, L. D., Friction measurements on a low earth satellite, 161
JOHNSON, K. L., Contact fatigue under oscillatory normal load (D), 268
JOHNSON, ROBERT L., Friction measurements on a low earth satellite (D), 177
JOHNSON, R. L., Gallium-rich films as boundary lubricants in air and in vacuum to 10^{-9} mm Hg, 1
JOHNSON, ROBERT L., Lubrication of ball bearings for space applications (D), 190
JOHNSON, ROBERT L., Wear and friction of mechanical carbons in liquid oxygen as influenced by transfer films, 201

K

KOHN, E. M., Lubrication of titanium surfaces modified by metallic diffusion (D), 47
KU, P. M., Contact fatigue under oscillatory normal load, 255
KU, P. M., Evaluation of oscillating bearings for high-temperature and high-vacuum operation, 12
KU, P. M., Friction measurements on a low earth satellite (D), 176
KUMNICK, M. C., Wear studies on moldings of polytetrafluoroethylene resin. Considerations of crystallinity and graphite content, 276

L

LANGE, WALTER H., Radioisotopes applied to lubrication problems of inertial gyro bearings, 125
LEE, R. E., JR., Frictional characteristics of cobalt, nickel, and iron as influenced by their surface oxide films (D), 39
LEWIS, P., Lubricant evaluation for bearing systems operating in spatial environments, 67
LI, C. H., Wear studies on moldings of polytetrafluoroethylene resin. Considerations of crystallinity and graphite content (D), 284
LING, F. F., Metallic cohesion in high vacuum (D), 27
LONTZ, J. F., Wear studies on moldings of polytetrafluoroethylene resin. Considerations of crystallinity and graphite content, 276
LYON, R. L., The effect of adsorbed films on the attractive and frictional forces developed in an electrostatic clutch, 209

M

MACCONOCHIE, IAN O., Some optimum conditions for the lubrication of gear teeth, 141
MACCONOCHIE, IAN O., Surface roughness effects on metallic contact and friction (D), 58
MAGILL, P. J., The behavior of a silicone-lubricated electrostatic clutch, 218
MARTENS, H. E., Friction measurements on a low earth satellite, 161
MAYER, WILLIAM J., Radioisotopes applied to lubrication problems of inertial gyro bearings, 125
MCCARTHY, P. R., Development and evaluation of greases for high temperature–high speed applications, 102
MCCLINTOCK, RALPH, Effect of lubricants on rear axle pinion bearing break-in, 154
MCCURRY, R. E., The behavior of a silicone-lubricated electrostatic clutch, 218
MCKIBBEN, R. F., Relating humidity cabinet life of lubricants to their service life, 233
MORI, HARUO, Theoretical investigation of externally pressurized thrust collar gas bearings, 337
MOYER, C. A., A first order solution for the stress concentration present at the end of roller contact, 324
MURRAY, S. F., Friction-wear characteristics of self-lubricating composites developed for vacuum service (D), 200
MURRAY, S. F., Lubricant evaluation for bearing systems operating in spatial environments, 67

N

NAGLER, R. G., Friction measurements on a low earth satellite, 161
NEIFERT, H. R., A first order solution for the stress concentration present at the end of roller contact, 324
NEUNHERZ, D. E., Classification of multigrade motor oils at 0°F, 227

P

PATTISON, D. A., Predicting elastomer-fluid compatibility for hydraulic systems, 80
PERILSTEIN, WARREN L., Solid film deposition and non-sacrificial boundary lubrication, 60
PETERSON, D. E., Influence of glycol molecular configuration on friction (D), 99
PETERSON, M. B., Frictional characteristics of cobalt, nickel, and iron as influenced by their surface oxide films, 29
PETERSON, M. B., Lubricant evaluation for bearing systems operating in spatial environments, 67

R

RABINOWITZ, E., Lubrication by low-melting-point metals at elevated temperatures, 286
RAIMONDI, A. A., Theoretical and experimental investigation of gas lubricated, pivoted-pad journal bearings (D), 356
REICHENBACH, GEORGE S., A first order solution for the stress concentration present at the end of roller contact (D), 335
RIGHTMIRE, B. G., Surface roughness effects on metallic contact and friction (D), 59
RITTENHOUSE, J. B., Friction measurements on a low earth satellite, 161
RODGERS, J. J., The mechanism of anti-squawk additive behavior in automatic transmission fluids (D), 312
ROUNDS, FRED G., Influence of glycol molecular configuration on friction, 89
RYDER, EARLE A., A scoring factor for gears (D), 153

S

SANDS, T. B., Effect of lubricants on rear axle pinion bearing break-in (D), 159
SCHAFFER, R. R., The behavior of a silicone-lubricated electrostatic clutch, 218
SHAKIB, IRAJ DAVID, Some optimum conditions for the lubrication of gear teeth, 141
SHAPIRO, ARTHUR, Lubrication of titanium surfaces modified by metallic diffusion, 40

SIBLEY, L. B., A first order solution for the stress concentration present at the end of roller contact (D), 334
SIBLEY, L. B., Correlation of gyro spin-axis ball bearing performance with the dynamic lubricating film (D), 122
SMITH, F. W., Influence of glycol molecular configuration on friction (D), 99
SMITH, J. O., Antiwear and extreme pressure additives for high temperature lubricants, 295
SNEAD, J. L., Oxidation stability of the fluoroalcohol esters, 316
SPEERSCHNEIDER, C. J., Wear studies on moldings of polytetrafluoroethylene resin. Considerations of crystallinity and graphite content (D), 284
STAFFIN, G. D., Predicting elastomer-fluid compatibility for hydraulic systems, 80
STEIDLER, F. E., Calculated performance of greases in journal bearings, 239
STEMNISKI, J. R., Antiwear and extreme pressure additives for high temperature lubricants, 295

T

TALLIAN, TIBOR, Contact fatigue under oscillatory normal load (D), 267
TAWRESEY, JOHN S., Contact fatigue under oscillatory normal load (D), 267
TYLER, J. C., Contact fatigue under oscillatory normal load, 255

W

WALDRON, ROBERT D., Gallium-rich films as boundary lubricants in air and in vacuum to 10^{-9} mm Hg (D), 10
WARNER, P. C., Theoretical and experimental investigation of gas lubricated, pivoted pad-journal bearings (D), 356
WILSON, G. R., Antiwear and extreme pressure additives for high temperature lubricants, 295

Y

YABE, HIROSHI, Theoretical investigation of externally pressurized thrust collar gas bearings, 337
YOUNG, W. C., Lubrication of ball bearings for space applications, 178
YOUNG, WILLIAM C., Lubricant evaluation for bearing systems operating in spatial environments (D), 78

Z

ZAPF, C., Frictional characteristics of cobalt, nickel, and iron as influenced by their surface oxide films, 29

A Publication of the American Society of Lubrication Engineers

ASLE TRANSACTIONS

Volume 6

1963

ACADEMIC PRESS
New York and London

COPYRIGHT ©, 1963, BY AMERICAN SOCIETY OF LUBRICATION ENGINEERS
CHICAGO, ILLINOIS

ALL RIGHTS RESERVED

MADE IN THE UNITED STATES OF AMERICA

CONTENTS OF VOLUME 6

NUMBER 1, JANUARY 1963

BUCKLEY, D. H., and JOHNSON, R. L. Gallium-Rich Films as Boundary Lubricants in Air and in Vacuum to 10^{-9} mm Hg 1

BROWN, R. D., BURTON, R. A., and KU, P. M. Evaluation of Oscillating Bearings for High-Temperature and High-Vacuum Operation 12

HAM, JOHN L. Metallic Cohesion in High Vacuum 20

FOLEY, R. T., PETERSON, M. B., and ZAPF, C. Frictional Characteristics of Cobalt, Nickel, and Iron as Influenced by Their Surface Oxide Films 29

SHAPIRO, ARTHUR, and GISSER, HENRY. Lubrication of Titanium Surfaces Modified by Metallic Diffusion 40

FUREY, M. J. Surface Roughness Effects on Metallic Contact and Friction 49

FENG, I-MING, PERILSTEIN, WARREN L., and ADAMS, MARTIN R. Solid Film Deposition and Non-Sacrificial Boundary Lubrication 60

LEWIS, P., MURRAY, S. F., PETERSON, M. B., and ESTEN, H. Lubricant Evaluation for Bearing Systems Operating in Spatial Environments 67

BEERBOWER, A., PATTISON, D. A., and STAFFIN, G. D. Predicting Elastomer-Fluid Compatibility for Hydraulic Systems 80

NUMBER 2, APRIL 1963

ROUNDS, FRED G. Influence of Glycol Molecular Configuration on Friction 89

MCCARTHY, P. R. Development and Evaluation of Greases for High Temperature-High Speed Applications 102

HORSCH, JOHN D. Correlation of Gyro Spin-Axis Ball Bearing Performance with the Dynamic Lubricating Film 112

MAYER, WILLIAM J., LANGE, WALTER H., and CONNERS, THOMAS F. Radioisotopes Applied to Lubrication Problems of Inertial Gyro Bearings 125

HOWE, THOMAS B. Initial Experiments with a Ball Bearing Simulator 133

MACCONOCHIE, IAN O., and SHAKIB, IRAJ DAVID. Some Optimum Conditions for the Lubrication of Gear Teeth 141

BORSOFF, V. N., and GODET, M. R. A Scoring Factor for Gears 147

MCCLINTOCK, RALPH. Effect of Lubricants on Rear Axle Pinion Bearing Break-In 154

NUMBER 3, JULY 1963

RITTENHOUSE, J. B., JAFFE, L. D., NAGLER, R. G., and MARTENS, H. E. Friction Measurements on a Low Earth Satellite 161

YOUNG, W. C., CLAUSS, F. J., and DRAKE, S. P. Lubrication of Ball Bearings for Space Applications 178

Boes, D. J., and Bowen, P. H. Friction-Wear Characteristics of Self-Lubricating Composites Developed for Vacuum Service 192

Hady, William F., Allen, Gordon P., and Johnson, Robert L. Wear and Friction of Mechanical Carbons in Liquid Oxygen as Influenced by Transfer Films 201

Clinton, W. C., and Lyon, R. L. The Effect of Adsorbed Films on the Attractive and Frictional Forces Developed in an Electrostatic Clutch 209

Magill, P. J., McCurry, R. E., and Schaffer, R. R. The Behavior of a Silicone-Lubricated Electrostatic Clutch 218

Neunherz, D. E. Classification of Multigrade Motor Oils at 0°F 227

McKibben, R. F., and Forinash, D. M. Relating Humidity Cabinet Life of Lubricants to Their Service Life 233

Horowitz, H. H., and Steidler, F. E. Calculated Performance of Greases in Journal Bearings 239

DiPrima, R. C. A Note on the Stability of Flow in Loaded Journal Bearings .. 249

NUMBER 4, OCTOBER 1963

Tyler, J. C., Burton, R. A., and Ku, P. M. Contact Fatigue under Oscillatory Normal Load 255

Dorinson, A. Crater Wear and Failure of High Speed Steel Tools in Dry and Lubricated Cutting 270

Lontz, John F., and Kumnick, Miles C. Wear Studies on Moldings of Polytetrafluoroethylene Resin. Considerations of Crystallinity and Graphite Content 276

Imai, M., and Rabinowicz, E. Lubrication by Low-Melting-Point Metals at Elevated Temperatures 286

Smith, John O., Wilson, Glenn R., and Stemniski, John R. Antiwear and Extreme Pressure Additives for High-Temperature Lubricants 295

Albertson, Clarence E. Mechanism of Anti-Squawk Additive Behavior in Automatic Transmission Fluids 300

Snead, Jonathan L., and Gisser, Henry. Oxidation Stability of the Fluoroalcohol Esters 316

Moyer, C. A., and Neifert, H. R. A First Order Solution for the Stress Concentration Present at the End of Roller Contact 324

Mori, Haruo, and Yabe, Hiroshi. Theoretical Investigation of Externally Pressurized Thrust Collar Gas-Bearings 337

Gunter, E. J., Jr., Castelli, V., and Fuller, D. D. Theoretical and Experimental Investigation of Gas-Lubricated, Pivoted-Pad Journal Bearings 346

Author Index 358